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APPLICATION NO.	-FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,191	04/18/2001	Tsung-Chih Chen	BHT-3106-135	6521

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DOUGHERTY & TROXELL  
SUITE 1404  
5205 LEESBURG PIKE  
FALLS CHURCH, VA 22041

EXAMINER

JIANG, CHEN WEN

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 12/07/2001

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/836,191

Applicant(s)

CHEN, TSUNG-CHIH

Examiner

Chen-Wen Jiang

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 1-3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## DETAILED ACTION

### *Specification*

1. Claims 1-3 are objected to because of the following informalities: It is not clear "said conductor" in line 10 of the claim 1 represents the cold conductor or the hot conductor.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claim 2, the phrase "and other elements" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "other elements"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

5. The following rejections are based on the best understanding of the claimed limitations.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Phillips et al. (U.S. Patent Number 3,236,056).

Phillips et al. disclose an apparatus for cooling automobiles. Referring to Figs.1-3, the reference number 10 designates a heat exchanger provided with a cold chamber 12 and a hot chamber 18. Commercial thermoelectric units 34 are bonded between the cold and hot chambers. Pumps 30,52 are utilized to force the water through the chambers.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. (U.S. Patent Number 3,236,056) in view of Saeki et al. (U.S. Patent Number 5,070,701).

Phillips et al. disclose the invention substantially as claimed. However, Phillips et al. do not disclose the element material include of Sb, Bi. Saeki et al. teach that Sb and Bi are used to make thermoelectric in the same field of endeavor for the purpose of providing thermoelectric

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element material. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Phillips et al. with Sb and Bi material in view of Saeki et al. so as to make thermoelectric elements.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. in view of Saeki et al. and further in view of Gilley et al. (U.S. Patent Number 6,003,319).

Phillips et al. disclose the invention substantially as claimed. However, Phillips et al. do not disclose fins are attached to the hot chamber and adapted to a fan. Saeki et al. teach that fins are attached to a chamber as shown in Fig.2(a) and Gilley et al. teach a fan to drive air through the fins for cooling. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Phillips et al. with fins and fan in view of Saeki et al. and further in view of Gilley et al. so as to improve the cooling. Regard to the three sides are integrated to the fins are design choice based on the heat transfer requirement.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references can be used to reject the claims under 35 U.S.C. 102(b): Lopp et al. (U.S. Patent Number 2,928,253), O'Geary et al. (U.S. Patent Number 5,255,520), Attey et al. (U.S. Patent Number 5,544,487), Imaizumi et al. (U.S. Patent Number 5,921,088). Watanabe et al. (U.S. Patent Number 5,931,001) and Gilley et al. (U.S. Patent Number 6,003,319). Chao et al. (U.S. Patent Number 4,448,028) is made of record as Sb and Bi are used to make thermoelectric element.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (703) 308-0275.

The examiner can normally be reached on Monday-Thursday from 6:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (703) 308-2597. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5648.

Chen-Wen Jiang  
December 4, 2001

